

UNIVERSITY OF
LOUISVILLE[®]

***RESEARCH,
SCHOLARSHIP +
CREATIVE ACTIVITY***

2024 STRATEGIC PLAN

UPDATED (DRAFT)

AUG. 2024



Introduction to Metropolitan Louisville and UofL

The University of Louisville (UofL) is a dynamic, community-engaged research-intensive anchor university nestled in the heart of Metropolitan Louisville, Kentucky. With a population of around a million people, Metro Louisville boasts a rich diversity, mirroring the global landscape. Metro Louisville includes a robust infrastructure and thriving arts and sports scenes that make it a magnet for industries and talent alike, fueling the local economy. The symbiotic relationship between Metro Louisville and the UofL fosters a fertile environment for research, innovation and entrepreneurship and provides opportunities for community-academic partnerships that enhance the health and well-being of Metro Louisville citizens.

UofL's illustrious history dates back to 1798, with a legacy of academic excellence that has grown and evolved over the centuries. The School of Medicine's founding in 1837 laid the groundwork for the Health Sciences Center in the 1960s, sparking a multidisciplinary approach to research and education that continues to drive UofL's success in the biomedical and health sciences fields. Significant contributions from all academic disciplines, ranging from the Arts and Sciences to Law, foster a vibrant intellectual environment and attract top-tier faculty and students who contribute to the university's reputation.

In 1997, the Commonwealth of Kentucky established a vision for UofL to become a "premier, nationally recognized metropolitan research university." Through strategic investments and the recruitment of world-class faculty, the university experienced unprecedented growth and earned the prestigious Carnegie R1 Research Intensive Classification, Carnegie Community Engagement Classification, and Association of Public & Land Grant Universities Innovation and Economic Prosperity Designation – one of only 35 universities to hold all three designations.

As we look to the future, UofL must continue to redefine what it means to be a premier metropolitan research university. By harnessing the collective expertise and new and existing resources of our institution, we can create a better, more inclusive community for all. Under the guidance of this plan, the next five years will undoubtedly bring exciting new opportunities, and UofL is poised to lead the charge in shaping a brighter future for Metropolitan Louisville, Kentucky, and the world.

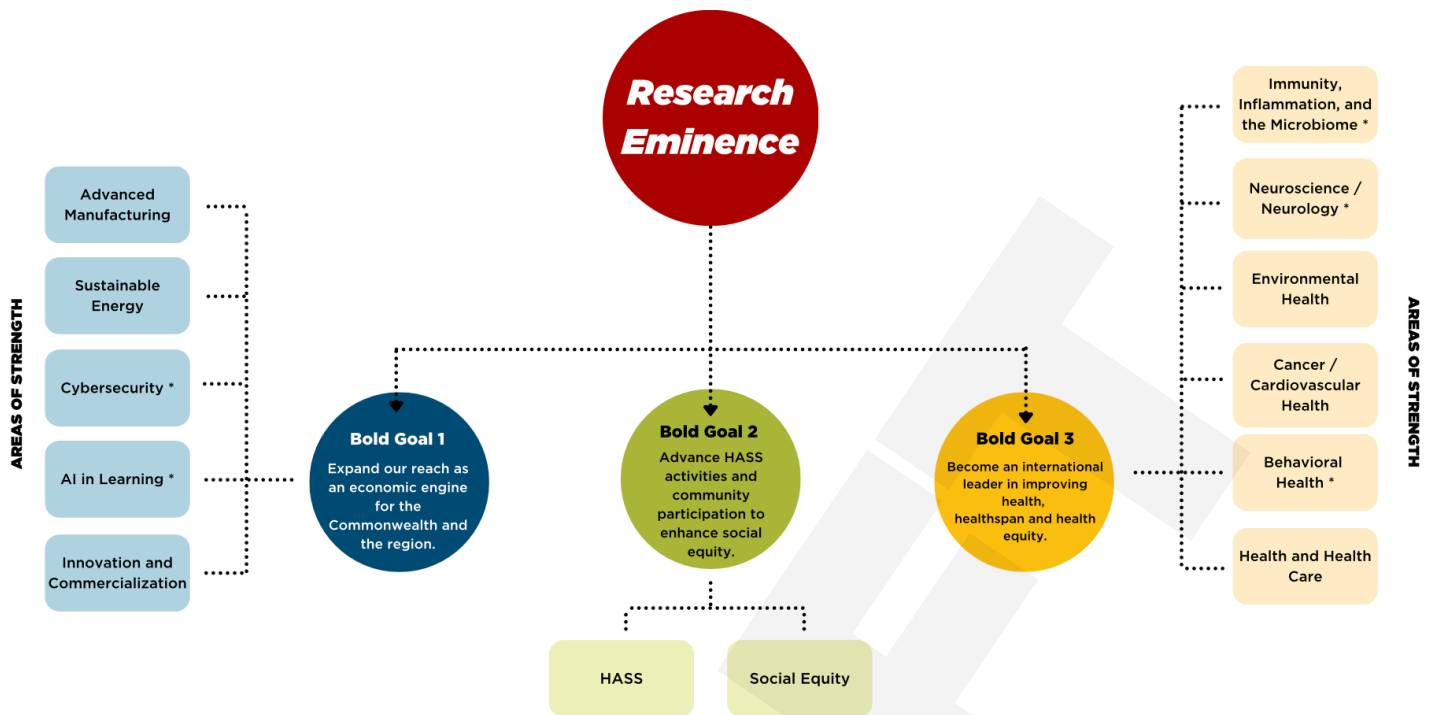
Guiding Principles

As we come together to implement this research strategic plan over the next five years, we are committed to the following transparent guiding principles that intersect all disciplines, initiatives, and activities at UofL:

1. **Collaborate with the Community:** Our commitment remains steadfast in partnering with our community to drive research, innovation, scholarship and entrepreneurship for the mutual benefit of all involved.
2. **Act with Integrity:** Our scholars will exemplify the utmost professionalism and uphold the highest ethical standards.
3. **Encourage Discovery:** Individual investigators/scholars/artists are the bedrock of the research enterprise. We respect that ideas to advance science, improve health, address community needs, and improve the world in which we live often begin with a single individual. **Broaden Participation:** We embrace inclusive excellence as a cornerstone for research, innovation, and scholarship and we endeavor to encourage and support the full breadth of scholarly activity that occurs across the university.
4. **Foster Connection:** Across our 12 schools and colleges, interdisciplinary collaboration is imperative. Research Centers and Institutes will serve as pivotal hubs for catalyzing transformative and interdisciplinary endeavors.
5. **Intentional Communication:** We pledge to enhance both internal and external research communications that are essential for fostering scholarly productivity, facilitating collaborative opportunities, and conveying the importance and impact of our work. Integral to this effort is nurturing a positive culture that values and appreciates researchers, scholars, and supporting staff for their contributions to scholarly outcomes.
6. **Drive Economic Impact:** We will elevate the translation of ideas and inventions that benefit the well-being, culture, and economic prosperity of the Commonwealth.
7. **Enhance Foundations for Success:** We recognize the significance of robust research infrastructure and the increasing importance of advanced tools and disruptive technologies in realizing the research strategic plan. Adoption and incorporation of AI and other advancements for both research and operational purposes will be embedded across all our endeavors.

Areas of Eminence

The research and scholarship we do at the UofL is producing progress on a global scale and is deeply intertwined with the community we serve. We have areas of eminence across schools and colleges that inspire humanity, drive culture, promote the well-being of society, advance human health, promote economic growth, and address some of the most important issues of our time. We are committed to developing targeted investment plans in these areas of high impact.



Advanced Manufacturing

The UofL’s expertise in Industry 4.0 technologies, combined with the NIST-funded [manufacturing extension partnership](#), demonstrates its leadership in advanced manufacturing. UofL engineers and scientists, have leading expertise in micro/nanotechnology, additive manufacturing, materials characterization, robotics and automation, Internet of Things (IoT), cloud computing, power electronics, and smart grid applications.

Environmental Health

Strong teams of interdisciplinary researchers within the [Christina Lee Brown Envirome Institute](#), the [Center for Integrative Environmental Health Science](#), and others focus on new approaches to promoting and preserving human health, increasing the understanding that healthy air, water and soil are keys to the health of all life. Other research teams, led by engineers and natural scientists, are working to build a framework to integrate the interactions of pollutants and lifestyle factors in human health and disease, as modified by life stage and gender.

Health and Health Care

Through ground-breaking discoveries, UofL researchers are advancing knowledge and clinical practice to improve the health of citizens of the Louisville community, Kentucky and the nation. Our internationally renowned health researchers in the areas of cancer, cardiometabolic and cardiovascular health, inflammation, liver disease, precision medicine, and emerging infectious diseases and therapies are some of the most noted in the world.

Innovation and Commercialization

The UofL is uniquely qualified to support inventors working to develop and commercialize ideas and technologies emerging from their research, including intellectual property protection, entrepreneurial coaching, and product development initiatives. With a diverse array of innovative products spanning sectors such as digital therapeutics, medical devices, and sustainable manufacturing, UofL continues to lead the charge in driving positive change and prosperity through research-driven innovation.

Humanities, Arts, and Social Sciences (HASS)

The College of Arts and Sciences and the School of Music include internationally recognized scholars who publish with eminent presses, win prestigious grants, and demonstrate a firm commitment to interdisciplinarity, community engagement, and social change. The Humanities Division is home to nationally recognized painters, novelists, poets, actors, and dramaturgs and researchers who produce high-impact scholarship on the history, criticism, and theory of the various arts. The arts beautify the learning experience, build community, foster cross-cultural understanding, energize cross-disciplinary connections, and enrich campus life for students representing all backgrounds and majors. Faculty and students in music, theatre, and the visual arts produce both published research as well as creative works as their scholarly output. World-class teaching artists are among the faculty at the UofL and their creative works, whether in live performance or in exhibition, are part of a well-established tradition of excellence including competitive honors and marks of distinction in regional, national, and international settings.

Social Equity

Scholarship across disciplines focus on the community's and society's most pressing challenges that have resulted from poverty or other social inequities. UofL scholars from schools and colleges across campus including A&S, Law, Business, Social Work, Nursing, Public Health, and Education and Human Development have advanced science and changed professional practices to address the underserved.

Sustainable Energy

Interdisciplinary and individual scholars direct their research thrusts toward long term solutions for energy usage and climate mitigation. UofL natural scientists and engineers are well positioned to enable collaborations with researchers and industry partners worldwide.

Emerging Strengths

In addition to areas of existing eminence, the UofL is an incubator for big ideas and innovation. As part of the strategic planning effort, we have used competitive analysis processes to identify and group together emerging areas of successful scholarship. We will continue to analyze the patterns of success of our eminent scholars and use lessons learned to help us be agile, nimble, and adaptable in responding to emerging opportunities and community needs. The following are some areas of emerging strength identified through this process.

Adoption of AI and Machine Learning Across Disciplines and Collaborations

UofL is on the cusp of a new era in research and innovation, driven by the transformative power of artificial intelligence (AI) and machine learning. It is crucial for UofL to embrace these cutting-edge technologies and become a leader by building partnerships with leading technology firms to increase access to cutting-edge technology and increase access to real-world applications. By harnessing the power of AI, researchers can analyze vast amounts of data, identify complex patterns, and make data-driven decisions more efficiently than ever before. This will not only accelerate the pace of discovery but also enhance the quality and impact of UofL's research output.

Basic and Translational Neuroscience and Neurology

Across the research development spectrum - from basic to clinical research - our investigators are unlocking the mysteries of sight and taste and discovering new treatments for devastating injuries and disease, including spinal cord injury. With well-funded programs from the National Institutes of Health and local philanthropic partnerships, our neuroscience and neurology programs are well-positioned for strategic investment and to take a significant leap forward.

Behavioral Health

UofL interdisciplinary researchers, including those in [A&S](#), [Social Work](#), [Medicine](#), [Nursing](#) and [Public Health](#), have a growing track record in receiving external funding and advancing science in the area of behavioral health, addressing national health and social challenges. An outstanding program of research on eating disorders leveraging advanced technology exemplifies this area. Other promising areas of research focus are inquiry into child trafficking, alcohol misuse and addiction, HIV and stigma, cardiotoxic e-cigs, smoking, and depression.

Criminal Justice and Victim Advocacy

Independent and interdisciplinary scholars, including those in [Social Work](#), [Law](#), [Public Health](#) and [A&S](#), are involved in a number of research projects related to relationships between the community and police, as well as victim advocacy. Examples of funded collaborative projects include understanding statewide response to sexual assaults and studies of youth violence and school safety.

Cultural and Biological Impact of Disease

Renowned scholars focused on archeology and cultural heritage conduct groundbreaking research locally and internationally. Collective work has advanced understanding of the behavioral dimensions of human evolution in Africa and archeological and heritage work in the Amazon, as well as understanding the heritage of Metro Louisville. Recent collaborations between humanities and health scientists have explored the cultural, biological and immunological impacts of disease in past and current populations.

Cybersecurity

Scholars from the Schools/Colleges of Business, Engineering, Public Health and Education and Human Development have developed solutions to address the international priority of cybersecurity. Noteworthy programs include the Cybersecurity Workforce Program ([CEHD](#)); Online Cybersecurity Certificate ([Speed School](#)); and the Cyber Security Initiative ([Speed School](#) and [College of Business](#)). The UofL Cyber Security Initiative has been designated by the National Security Agency as a National Center of Academic Excellence in Cybersecurity.

Immunity, Inflammation, and the Microbiome

UofL has strong and long-standing research programs focusing on the role of the immune system and inflammation in disease initiation, progression, and treatment, including those led by the schools of [Dentistry](#) and [Medicine](#). Newer programs evaluating the interplay of the microbiome, immunogenomic variation, and probiotic delivery have established a strong foundation that will position us to reveal the secrets of the immune system and to develop new therapeutic approaches that will enhance health outcomes.

Engineering and Healthcare

An emerging area of research includes collaborations between engineering and health to solve real world problems and advance medical science, such as the Assistant Robotic Nursing Assistant. The next directions will include advanced robotic neurosurgery and miniaturized surgical instruments, in-situ repair of orthodontic and dental implants, wearable sensors for human health monitoring and exoskeletons for sports medicine, robotic rehabilitation technologies to address stroke, spinal cord injuries, and autism spectrum disorders, intelligent tele-health systems to provide physical aid and emotional support, and next generation age-in-place and senior living service technologies.

Strategic Themes

The research strategic planning process involved input from faculty, deans, and senior leadership across the university. These discussions identified several strategic themes that will facilitate our next phase of research and scholarly work at UofL. Addressing these themes supports UofL's goal to be a premier, internationally recognized metropolitan research university, embedded in our community, and serving the entire Commonwealth with a commitment to improving lives and fostering societal progress. Our collective efforts around four strategic themes will bind us together.

Strategic Theme #1: Leverage and Grow Unique Resources and Expertise to Achieve Bold Goals

Being an anchor metropolitan research university goes beyond simply being in a city; it means being an integral part of the community, a living, breathing entity that is deeply intertwined with the urban fabric. It's about more than just sharing a geographic space, it's about forging connections, engaging in dialogue, and actively participating in the growth and development of the city and its people.

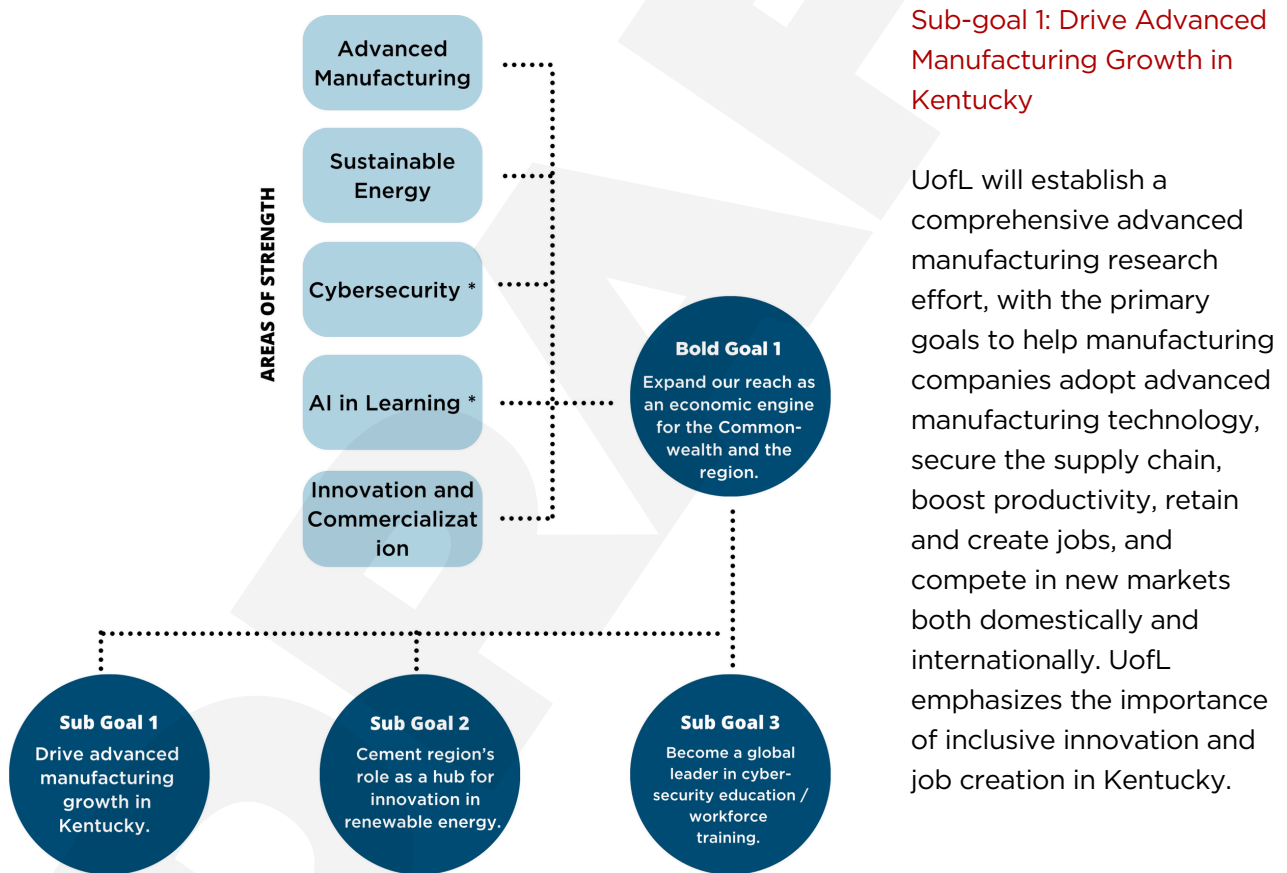
As a metropolitan research university, we are not just bystanders, but active participants in the urban narrative. Our research and innovation are not confined within the walls of our campus, they spill out into the city, addressing its challenges, enhancing its strengths, and enriching the lives of its residents. We are not merely a university in the city, but a university of the city, a beacon of knowledge and progress that illuminates the path forward, leveraging our research capabilities, resources, and partnerships to develop innovative solutions to complex societal problems.

In 1990, the UofL made a clear commitment to this mission by signing the Declaration of Metropolitan Universities. Since then, UofL has focused on leveraging its research capabilities and interdisciplinary partnerships to address pressing metropolitan problems, from access to healthcare to renewable energy. Since then, we have become one of only 35 universities in the U.S. to be recognized by the Carnegie R1 Classification, the Carnegie Community Engagement Classification, and the Association of Public & Land Grant Universities Innovation and Economic Prosperity Designation.

With these fundamental strengths and more, combined with its strategic location in the heart of Kentucky's largest metropolitan region, UofL endeavors to solve some of the nation's greatest challenges. With this in mind, UofL recommits to this effort by establishing bold goals.

Bold Goal 1: Expand our Reach as an Economic Engine for the Commonwealth and Region

The UofL is uniquely positioned to develop new knowledge and deliver impactful solutions that advance the economic prosperity of the people of Kentucky. These capabilities include the Commonwealth's largest engineering school, the Kentucky Manufacturing Extension Partnership, and leading innovation programs that have positioned UofL as a leader in lab-to-market research. To maintain and enhance this position, UofL will continue to prioritize research that promotes well-being and economic prosperity for Kentucky.



Sub-goal 2: Cement Region's Role as a Hub for Innovation in Energy Research

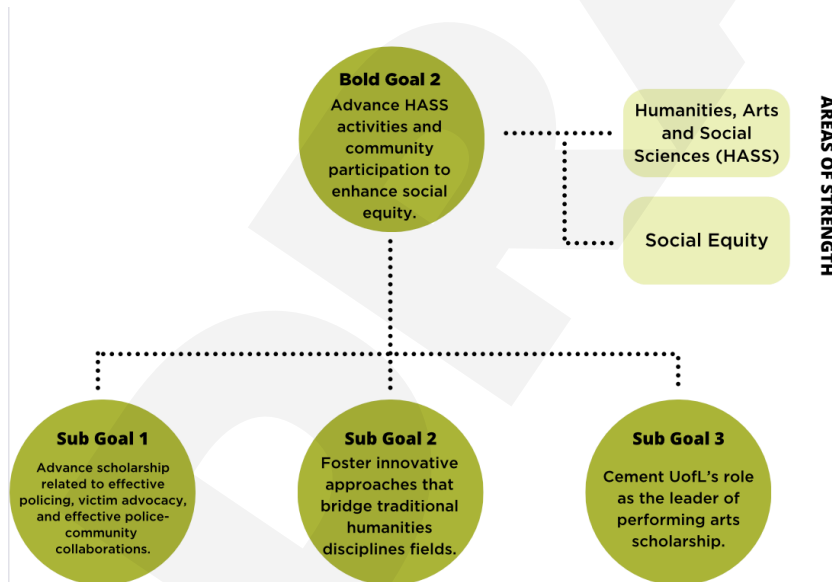
The university will prioritize the development of a regional hub for energy research, including that in Engineering and A&S, focused on long term solutions for energy usage and climate mitigation and well positioned to enable collaborations with researchers and industry partners worldwide. UofL's research themes in this area currently include Solar Manufacturing, Solar Fuels, Biofuels & Biomass Conversions, Energy Storage, Advanced Energy Materials, Materials Characterization, and Energy Efficiency & Conservation.

Sub-goal 3: Become a Global Leader in Cybersecurity Pedagogy and Workforce Training

The UofL cybersecurity research and teaching initiative will be a vibrant, interdisciplinary endeavor, drawing expertise from across the university to develop the art, science, and practice of teaching and learning cybersecurity and position UofL for continued research funding for interdisciplinary researchers. Building on our significant existing strength, this will expand how cybersecurity knowledge and skills are imparted, considering the social, political, and psychological development of learners. Our programs will be applied across various learning environments and encompass the theories and practices that help to co-create cybersecurity knowledge and foster flourishing relationships between teachers, students, and the broader community. This initiative will be a dynamic and evolving effort, with numerous approaches and theories to engage, motivate, and support cybersecurity learners in their educational journey, leveraging the institution's strengths to attract increased funding and foster deeper connections with government agencies, businesses, and the community. This will provide comprehensive and cutting-edge learning experiences for professionals in this critical field.

Bold Goal 2: Achieve International Recognition in Humanities, Arts and Social Sciences and Advance Social Equity

Humanities, Arts and Social Sciences (HASS) strengthen and promote the well-being and resilience of people and communities. They are essential to our democracy and to reaching our highest potential by nourishing creative culture, freedom of thought, imagination, and inquiry. We will prioritize efforts to support recognition of scholars, provide essential infrastructure, and support collaborations that advance international science and the collective understanding of the human condition.



Sub-goal 1: Advance Scholarship Related to Effective Policing, Victim Advocacy, and Effective Police-Community Collaborations

Our scholars in Arts & Sciences, Public Health, and Social Work continue to examine structural inequalities and systemic racism through social equity and advocacy research.

These scholars will also continue to advance the understanding of the dynamics of well-being and the resolution of conflict in individuals, families, groups, and organizations. Simultaneously, our researchers continue to collaborate with community partners to create evidence upon which best policing practices can be established and translated into practice. We will promote and empower scholars, centers, and institutes to pull together to advance efforts and focus on social equity scholarship.

Sub-goal 2: Foster Innovative Approaches that Bridge Traditional Humanities Disciplines such as Anthropology, Biology, Law, Digital Humanities, and Environmental Humanities

This initiative seeks to establish UofL as a global leader in HASS research by fostering a dynamic community of scholars, artists, and researchers dedicated to tackling pressing social, cultural, and environmental challenges through innovative and critical inquiry. By supporting collaborative projects, workshops, and conferences that unite diverse disciplines, UofL will facilitate cutting-edge scholarship in the humanities and cultivate a new generation of interdisciplinary thinkers.

UofL will forge strong partnerships with local, national, and international institutions to drive collaborative research projects, exchange programs, and public engagement initiatives. Through these strategic efforts, UofL will not only contribute to the advancement of knowledge in HASS but also foster a more vibrant, inclusive and engaged society.

Sub-goal 3: Cement UofL's Role as the Leader of Performing Arts Scholarship and the Go-To Partner for Organizations Working to Promote Arts in Kentucky

We will elevate the reputation of faculty artists and scholars through internal and external marketing and support of collaborations with the Kentucky Center for the Performing Arts and other community arts organizations. With investments into enhanced facilities, UofL will be named as site for Governor Scholars for the Arts by 2028.

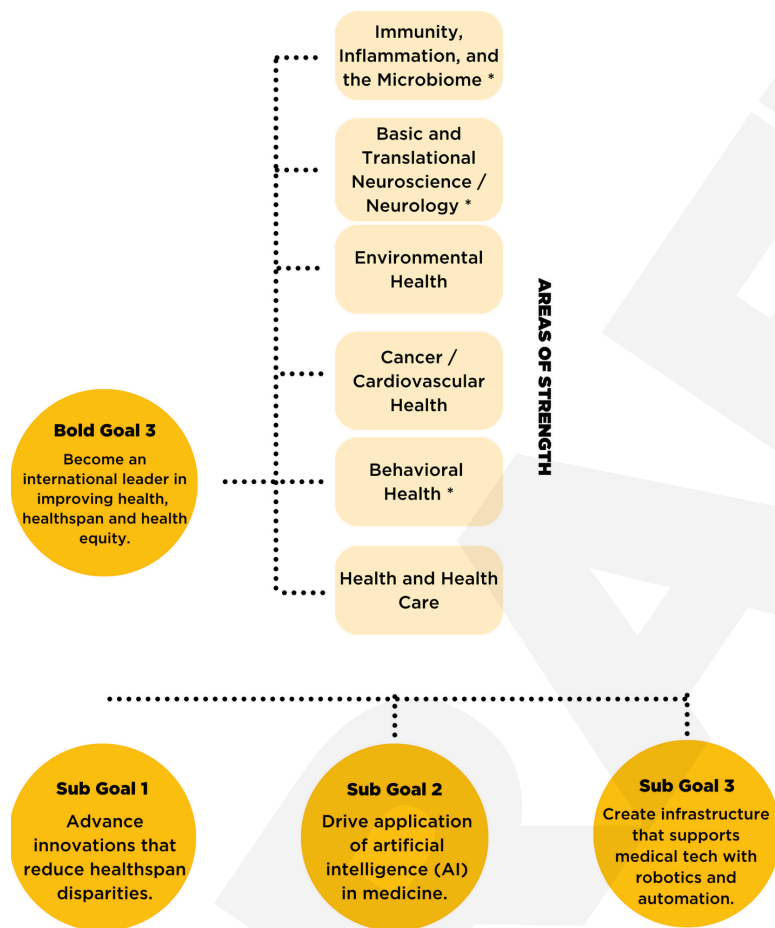
Bold Goal 3: Become an International Leader in Improving Health, Health Span, and Health Equity Through Cutting-Edge Research and Technology

UofL scholars are at the forefront of creating and applying the knowledge necessary to expand the period of life spent in good health, and free from chronic disease. In partnership with UofL Health, the university is part of a growing academic medical center, well-equipped to deliver the latest therapies and treatments to improve and save lives. Louisville residents have an average life expectancy of 74.8 years, but lifespan ranges from 65.4 years to 80.8 years depending upon external factors such as location, socioeconomic status, and environmental exposures and lifestyle. UofL will develop a programmatic, university-wide approach to understanding what limits human health span and how to address these limitations.

Sub-goal 1: Advance Innovations that Reduce Healthspan Disparities

We propose to develop a program of excellence in reducing health span disparities, driven by the work of eminent and emerging scholars that are advancing clinical and translational science related to health and environmental issues that limit the health span and life span of Metro Louisville residents.

Because of the characteristics of Metro Louisville, this work will have international application. One well aligned example is our goal over the next ten years to implement clinical trials and new therapies to decrease cancer death rates in Kentucky by 50% through investment in a multi-pronged research approach that optimizes cancer care, screening, outreach, wellness, and education missions.



Sub-goal 2: Drive Application of Artificial Intelligence (AI) in Medicine

We propose to develop a program of excellence in the use of AI in medical diagnosis and care. This initiative will build on existing efforts to develop AI systems to create improved outcomes through personalized care and novel clinical research approaches. Initial areas of focus will be on medical imaging, personalized drug dosing, and behavioral disorders. Additional areas of focus will be added rapidly as intramural and extramural collaborative networks form.

Sub-goal 3: Transform Healthcare Through Research in Medical Devices and Robotics

We propose the creation of a new area of excellence that will develop novel and innovative technologies for medicine focused on integrating advancements in robotics, automation, and medical devices. This initiative will establish foundational collaborations between the Louisville Automation and Robotics Research Institute, biomedical scientists and engineers, and health-focused units from UofL’s School of Medicine, School of Dentistry, School of Nursing, and School of Public Health. Opportunities include advanced robotic neuro-surgery and miniaturized surgical instruments, in-situ repair of orthodontic and dental implants, wearable sensors for human health monitoring and exoskeletons for sports medicine, robotic rehabilitation technologies to address stroke, spinal cord injuries, and autism spectrum disorders, intelligent tele-health systems to provide physical aid and emotional support, robotic nursing assistance, and next generation age-in-place and senior living service technologies.

Strategic Theme #2: Attract, Support, and Retain Exceptional Scholars

UofL is home to a network of prominent scholars who continually push the boundaries of discovery and innovation. Over the next five years, we will strategically build upon our strong foundation and welcome new thinkers and partners that will expand our capabilities and together we will ascend to new heights. Concurrently, we will foster the growth and success of our current faculty and future investigators through the delivery of support programs that seed new research endeavors, fuel team science and drive the growth of our vibrant research community.

Goal 1: Attract and Recruit Top-tier Scholars and Researchers to Elevate our Reputation as a Hub for Cutting-edge Research and Academic Excellence

Goal 2: Empower our Scholars to Make Meaningful Contributions to their Fields by Fostering an Environment Conducive to Professional Growth, Collaboration, and Success

Goal 3: Cultivate a Diverse Pipeline of Future Researchers by Providing Comprehensive Research Training and Workforce Development Programs and Experiences

Proposed tactics to fuel the growth of the research enterprise through investments in new and existing scholars can be found in the Appendix.

Strategic Theme #3: Invigorate Innovation, Entrepreneurship, Tech Transfer, and Economic Development

We will fulfill the UofL's public service mission by building strong relationships with industry partners, investors, and entrepreneurs to positively impact society and drive economic growth. To achieve this goal, the strategic plan requires a multi-pronged approach to coordinate research alliances, IP protection and licensing, and new venture creation. No one element alone will allow UofL to become a leader in moving discoveries from our campus out into the world where they can be put to good use improving lives.

Goal 1: Build a Bold Culture of Innovation and Entrepreneurship

Goal 2: Elevate the Translation of Ideas and Inventions that Benefit the Well-being, Culture, and Economic Prosperity of the Commonwealth

Goal 3: Facilitate and Promote Economic Development by Building Strong Partnerships Between UofL and the Business Community, Offering Collaborative Solutions to Solve Complex Problems and Support the UofL Research Community

Proposed tactics to build a culture of innovation and to drive regional creativity and competitiveness, in and around the Louisville area, can be found in the Appendix.

Strategic Theme #4: Invest in the Research Environment and Infrastructure

The environment and culture in which research and scholarly activity are performed have significant influence on productivity and success. At UofL, we will seek to create a vibrant research environment that enables excellence and where community member's contributions are valued, supported, and rewarded. Through streamlined administrative processes, enhanced tools and modern infrastructure, and smarter investment models we will create an environment where scholars are empowered to explore, connect, discover, and create positive impact.

Goal 1: Strengthen and Invest into a 21st Century Approach to Enterprise Research Administration and Business Administration Support Attuned to the Needs of the Research Community

Goal 2: Strategically Expand Investment into Building and Modernizing Facilities, Infrastructure and Services to Support Cutting-edge Research

Goal 3: Review and Reform Institutional Financial Models and Policies and Implement Smarter Approaches to Support, Incentivize, and Grow Research and Scholarly Activity

Goal 4: Foster a Safe, Welcoming, Ethical, and Inclusive Research Environment that Proudly and Intentionally Celebrates Achievement, Success, and Positive Impact

Goal 5: Create, Expand, and Deliver Marketing and Communications Strategies to Share Research Opportunities, Publicize our Scholarship and Scholarly Impact, and to Enhance the Reputation of the University

Proposed tactics to drive a more dynamic and inclusive research environment and purposeful investment into enhanced research infrastructure can be found in the Appendix.

Appendix 1

Strategic Theme #2: Attract, Support, and Retain Exceptional Scholars

Goal 1 – Attract and recruit top-tier scholars and researchers to elevate our reputation as a hub for cutting-edge research and academic excellence.

TACTIC

- Implement a purposeful cluster hiring strategy and recruit at least one new cluster (interdisciplinary faculty and research teams) in Strategic Plan years one, three, and five, providing consequential start-up packages that will enable success and impact.
 - Cluster 1, Neuroscience, will be funded by the School of Medicine in year one. Cluster 2, will be funded by the Office of the Provost using external funding in year three. Likely subjects of the second cluster hire include Cybersecurity and Precision Medicine. Both areas will receive substantial government funding and are emerging areas of strength in engineering, business, education, medicine and as such would require recruitment across the UofL. Cluster 3 will focus on a rapidly emerging area of strength, such as Behavioral Health or Artificial Intelligence, and be funded by an anticipated Capital Campaign in year 5. Cluster recruitments 2 and 3 have not been specified as flexibility in the strategic approach is needed if new areas of excellence rapidly emerge. Cluster 1 is specified as focused on the neurosciences as that process is already underway. Strategic hires will be nationally recognized scholars with expertise aligned with existing assets and goals of the university.
- Develop a recurring annual pool of centralized startup funds — accessible to all schools and colleges and aligned with the strategic plan — to supplement faculty start-up packages and leverage joint appointments to open up new avenues for collaboration. A dedicated funding pool will be available starting in year two, supported by the Offices of the President, EVPHA, Provost, and Office of Research and Innovation.
- Fill Bucks for Brains open endowed positions in years two through five to support emerging research in areas of growing importance. This will be accomplished through active and purposeful collaborations between philanthropy, the UofL Foundation, academic units, the Office of Research and Innovation, and the Provost's Office.

Goal 2 – Empower our scholars to make meaningful contributions to their fields by fostering an environment conducive to professional growth, collaboration, and success.

TACTIC

- Create the Humanities, Arts, and Social Sciences (HASS) Advisory Group consisting of scholars, research development experts, and university leaders to plan and evaluate resources to support both STEM and non-STEM scholars. The advisory group will be formed in year one of the strategic plan and co-led by the Office of Research and Innovation and College of Arts & Sciences.
- Create pan-faculty advisory and development networks. Create advisory groups composed of junior, mid-career, and senior faculty that cultivate relationships and share ideas for improved research engagement. Discussion topics will include research career development, research leadership opportunities, and exposure to commercialization pathways. The advisory group will be formed in year one of the strategic plan and co-led by the Office of Research and Innovation and the Office of the Provost.
- Available to all scholars within UofL, we will provide targeted grant writing training, assistance, and access to external grant writing support. We will deliver discipline-specific grant writing workshops to each college and school, with additional sponsor-specific workshops available to the entire scholarly community (e.g., NIH R01 Academy). This will occur each year starting in year one and be funded by the Office of Research and Innovation.
- We will enhance the Office of Research and Innovation's internal grant program by consistently delivering two internal grant funding cycles per year, designed to support new research ideas and interdisciplinary research teams and provide other resources in traditionally underfunded areas. This will start in year two and be funded by the Office of Research and Innovation through a revised indirect cost distribution model and redeployed

- funds in the current budget. Additional resources include pilot and developmental interdisciplinary faculty grants from the NIH-funded Louisville Clinical and Translational Research Center (LCTRC). LCTRC grants will be available to all UofL faculty engaged in translational research.
- The expanded Research Development Team will provide infrastructure and support to facilitate the development, submission, and launch of large, complex research applications and programs. Using principles of team science, support will include competitive grant intelligence, grant writing and graphics support, team and project management, financial management, and compliance. The Research Development Team will support at least three multimillion-dollar applications each year, starting in year one, and will be funded by the Office of Research and Innovation.
- Seed Library Research Hubs with an initial focus on expanding the use of AI processes, data managing and sharing and open scholarship support services. We will bolster the role and visibility of professional librarians in providing trainings to support successful scholarship. This process will begin in year one and be funded by Office of Research & Innovation and Office of Provost.
- Implement “Strategic Intelligence” tools for the collection and analysis of information to inform decision making and future investments. In year one, the Office of Research and Innovation will hire staff on the Research Development Team to provide actionable insights and future-looking intelligence on the research and funding landscape and areas of excellence within the University. This team will help faculty develop better proposals and help leadership with strategic planning in order to advance the research enterprise. This will include close collaboration with External Affairs and Governmental Relations to build long-term beneficial relationships with funders.

Goal 3 - Cultivate an inclusive pipeline of future scholars by providing comprehensive research training and workforce development programs and experiences.

TACTIC

- Grow the number of doctoral students in conjunction with the growth in research-intensive faculty by systematically including support for graduate students in cluster hiring and recruitment/start-up package strategies. This will start in year two and be funded by collaborations between Offices of Provost, EVPHA, Research and Philanthropy.
- Increase the number of graduate assistantships and fellowships with the goal of adding 2 to 5 new positions per year over the next five years. Incentivize researchers to train more graduate students by increasing the tuition support program in the Graduate School and through evaluation of additional financial strategies to support graduate research. Assign a development officer to the Graduate School and Office of Research and Innovation to pursue philanthropic opportunities, including Endowed Graduate Student and Endowed Postdoctoral Fellowship Programs. . This will start in year two and be funded by collaborations between the Offices of Provost, EVPHA, Office of Research and Innovation and Philanthropy.
 - Broaden participation in the research workforce by strengthening and increasing the number of individual fellowship grants and research training programs across campus (e.g., NIH and NSF training grants), with a focus on key areas of eminence and emerging strength. A programmatic approach for research training program applications will be developed beginning in year two of the strategic plan.
 - Enhance research related professional development for early-stage faculty members, medical students, and undergraduate students, including:
 - A Presidential Scholars program will be created, protecting 50% of two clinical faculty member’s time annually, to allow them to devote attention to developing clinical and translational research skills, competencies, and credentials. A Dean’s Scholars program will be created to provide a research-focused “gap” year to train three medical students per year in clinical and translational research. These programs will be developed in year one of the strategic plan with funding from the LCTRC.
 - A new Undergraduate Research Scholars program will expose and integrate students into UofL research and allow them to begin to build toward a future research career. In collaboration with the Center for Engaged Learning, the program will begin in year two of the strategic plan with tuition support provided for three students per year by the Office of Research and Innovation.
 - Collaborate with community agencies and arts groups to co-sponsor the Governor’s School for the Arts summer program. By year three, UofL will become the host for this program.

Strategic Theme #3: Invigorate Innovation, Entrepreneurship, Tech Transfer and Economic Development

Goal 1 – Build a bold culture of innovation and entrepreneurship.

TACTIC

- Establish a National Innovation Advisory Board (NIAB) of trusted advisors who provide advice and connections to enhance UofL innovation and commercialization performance. Composed of leaders from industry, venture, and government – the NIAB will transform the university and our region by enabling the commercial advancement of ideas that improve the way we live and work. This will start in year one and will be funded by the Office of Research and Innovation.
- Provide institutional-level innovation and entrepreneurship programs to support all colleges and schools and provide a seamless pathway from the lab to the market at every stage of the process, from funding and training to licensing and startup management. These programs may include SBIR/STTR support services, proof of concept awards, seed funds, entrepreneurs-in-residence, and a venture studio with incubator services that exceed best practices. This will be implemented in year one and will be funded extramurally.

Goal 2 – Elevate the translation of ideas and inventions that benefit the well-being, culture, and economic prosperity of the Commonwealth.

TACTIC

- Address and lower existing 'barriers to entry' into the technology transfer and innovation ecosystem by simplifying access points and enhancing peer to peer mentorship. Implement additional technology transfer improvements, for example, expanded consulting and expertise in technology disclosure evaluation. This will be implemented in year one.
- Prioritize the translation of ideas and inventions into tangible benefits for society and economic prosperity by making institutional investments into innovation program staff, increasing access to innovation seed funding, and establishing strategic partnerships with industry leaders. This will be implemented in year one.

Goal 3 – Facilitate and promote economic development by building strong partnerships between UofL and the business community, offering collaborative solutions to solve complex problems and support the UofL research community.

TACTIC

- Become the preferred partner of industry by adopting modern practices in industry-university research collaboration that merge industry interests and university activity relating to faculty research expertise, intellectual property, and laboratory capabilities with direct access to each of these areas under a single umbrella, aligning essential internal capabilities to create, grow, and sustain industry partnerships. This will be implemented in year one.

- Enhance the industry partnerships team to engage with the business community and develop robust funded partnerships around core research and service disciplines at UofL. Do this by working closely with Advancement to increase the number of externally funded projects leading to demonstrable impacts and outcomes and maximum benefit for both UofL faculty and our industry collaborators, while also providing career opportunities for UofL students through these partnerships. This will be implemented in year one and will be funded by a combination of the Office of Research and Innovation, EVPHA, and Provost.

Strategic Theme #4: Invest in the Research Environment and Infrastructure

Goal 1 - Strengthen and invest into a 21st century approach to enterprise research administration and business administration support attuned to the needs of the research community.

TACTIC

- Establish an institutional strategy and funding model for delivering and supporting post-award administration resources across the research community. Supported by realigned indirect cost return to units and central administration and other funding sources, new post-award resources will be put into place by the end of year three of the strategic plan.
- Establish and deliver a research administration training and certification program with a target 95% participation rate for research administrators and business administrators supporting research across campus. This training and certification program will begin in year one of the strategic plan with funding provided by the Office of Research and Innovation.

Goal 2 - Strategically expand investment into building and modernizing facilities, infrastructure, and services to support cutting edge research and creative activity.

TACTIC

- Enable new and deeper research through an immediate and sustained investment into shared high-performance computing and support personnel. In year one, a \$4M+ investment of strategic institutional funds will deliver on-campus, hybrid cloud infrastructure with distributed and high-performance storage and dedicated data transfer capabilities. In year one, a new Associate Vice Provost for Research Computing will be hired to develop and lead an expanded research computing department and to help faculty engage in computationally oriented research.
- Coordinate and facilitate shared access to world-class core research facilities and services through the implementation of the university's core facilities business plan. Double funding for core facility infrastructure by year three of the strategic plan through enhanced investments from the Office of Research and Innovation, EVPHA, philanthropic, and federal sources.
- Improve research design, quality, analysis and outcomes through the expansion of commonly used research services (e.g., statistical consulting and biostatistical support). By year two, begin the process to seed and launch a shared Bioinformatics Resource Core to provide assistance with experimental design and data processing and analysis.
- Upgrade performing arts facilities to support the only Master of Fine Arts (MFA) program in Kentucky. This will be accomplished by year three with collaborations between philanthropy, academic units, and the Office of the Provost and Office of Research and Innovation.

Goal 3 – Review and reform institutional financial models and policies and implement smarter approaches to support, incentivize, and grow research and scholarly activity.

TACTIC

- Modernize the university's indirect cost distribution policy to better align resources with strategic needs and priorities outlined in the strategic plan and to facilitate the support and growth of research programs and the research enterprise as a whole. This effort will begin in year one and continue throughout the duration of this plan.

Goal 4 – Foster a safe, welcoming, ethical, and inclusive research environment that proudly and intentionally celebrates achievement, success, and positive impact.

TACTIC

- Promote rigorous, responsible, and ethical conduct of research and scholarly activity across the research community. Invest into infrastructure to support and deliver training on best practices for scientific inquiry and management, including research conduct, data management and security, rigor and reproducibility, and compliance considerations. A robust program will be established by the end of year three of the strategic plan, supported by the Office of Research and Innovation.
- Cultivate a culture committed to engagement and retention of under recognized members of our scholarly community. Develop programming focused on broadening participation in the research workforce, including supporting specialized funding opportunities from federal agencies. This work will begin in year one and funding will come from reallocation of Office of Research and Innovation resources.

Goal 5 – Create, expand, and deliver internal and external marketing and communications strategies to share research opportunities, publicize our scholarship and scholarly impact, and to enhance the reputation of the university.

TACTIC

- Successfully launch an annual research and innovation magazine, including stories and metrics highlighting the impact of UofL research, scholarship, innovation, and creative activity on the local community and around the world. This initiative will launch in year one of the strategic plan with support from the Office of Research and Innovation.
- Expand the reach of our scholarship and discovery by developing programming that helps faculty to communicate the impact of their work more clearly when presenting to various audiences. Partner with leading organizations and experts in scientific communications (e.g., Alan Alda Center for Communicating Science) and deliver programming at UofL to help our researchers and scholars connect with everyday people. Communications programming will be established in years 1 and 2 of the strategic plan and supported by the Office of Communications and Marketing and Office of Research and Innovation.
- Promote the Performing Arts, including the African American Theatre Program, to national audiences. Funds will be allocated to invite national leaders, including theatre critics and news writers, to 2-3 performances per year. We will capitalize on publicity from the annual UofL Grawemeyer Awards, which pays tribute to the power of creative ideas, and utilize community partnerships. This work will begin in year one and funding will come from the Offices of Research and Innovation, Communications and Marketing and Provost.